

APPENDIX B: Trend Tables, 1988-1998

Appendix B includes the following two tables:

- B1: Number of Doctorate Recipients, by Subfield, 1988-1998
- B2: Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1978, 1983, and 1988-1998

TABLE B-1: Table B-1 presents data for the most recent decade by subfield of doctorate. In general, the subfields correspond to the fields on the questionnaire's Specialties List located at the back of this report; some, however, do not appear on the current Specialties List because they are no longer included in the survey taxonomy. A dash (-) in a column indicates that the field was not on the Specialties List for that year.

Field groupings in this table may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates (SED); see inside the back cover for a description of field groupings as reported in these tables. The "general" field categories—for example, "chemistry, general"—include individuals who either received the doctorate in the general subject area or did not indicate a particular specialty field. The "other" field categories—for example, "chemistry, other"—include individuals whose specified doctoral discipline was not among the specialty fields.

The seven tables in Appendix A present additional information on the most recent cohort of research doctorate recipients by field of doctorate.

TABLE B-2: Table B-2 displays, by sex and citizenship, data on the race/ethnicity of doctorate recipients for 1978, 1983 and the past decade. Table B-2 contains three panels, each displayed on a separate page. The first panel includes all doctorates; the others disaggregate the data by sex.

New follow-up procedures implemented in 1990 and later years have increased coverage of several variables, including citizenship and race/ethnicity. One result has been greater postsurvey adjustment to racial/ethnic data than in earlier years. (Note: The greatest adjustment was to the numbers of black Doctorate recipients in 1990 and 1991—an increase of about 7.5 percent each year.)

The racial/ethnic question has undergone several revisions over the years. In 1977 it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980 the item was further revised in two ways: (1) the Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980 doctorate recipients could check more than one category to indicate their race.) The item was modified again 1982 to separate the questions on race and ethnicity. Since then respondents have been asked to first check one of four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In Table B-2, *Doctorate Recipients who reported Hispanic heritage, regardless of racial designation, are counted as Hispanic*. The remaining survey respondents are then counted in their respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as American Indian in this report.)

Tables A-2 and A-4 in Appendix A present additional information on the most recent cohort of doctorate recipients by race/ethnicity.

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1988-1998

Subfield	Year of Doctorate										
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
TOTAL ALL FIELDS	33,500	34,327	36,067	37,534	38,890	39,801	41,034	41,743	42,414	42,555*	42,683**
PHYSICAL SCIENCES	<u>5,309</u>	<u>5,455</u>	<u>5,859</u>	<u>6,280</u>	<u>6,502</u>	<u>6,496</u>	<u>6,822</u>	<u>6,808</u>	<u>6,674</u>	<u>6,667</u>	<u>6,739</u>
MATHEMATICS	749	859	892	1,039	1,058	1,146	1,118	1,190	1,122	1,125	1,177
Applied Mathematics	142	158	185	193	213	188	206	211	230	242	265
Algebra	54	50	39	72	69	84	78	82	78	78	75
Analysis and Functional Analysis	76	103	90	132	105	105	107	99	100	103	130
Geometry	44	47	42	66	45	44	35	45	72	70	54
Logic	20	12	19	23	28	19	29	35	16	23	16
Number Theory	26	23	26	30	25	42	37	35	42	46	46
Mathematical Statistics	152	167	157	206	217	228	205	205	178	181	204
Topology	27	37	50	57	58	54	38	51	55	62	65
Computing Theory and Practice	12	12	12	19	12	18	16	14	18	14	18
Operations Research	29	22	29	16	22	37	26	36	21	20	17
Mathematics, General	134	177	191	180	209	276	269	305	233	155	163
Mathematics, Other	33	51	52	45	55	51	72	72	79	131	124
COMPUTER SCIENCE	515	612	705	800	869	880	903	997	921	905	923
Computer Science	442	519	612	720	791	825	833	913	837	824	817
Information Sciences and Systems	73	93	93	80	78	55	70	84	84	81	106
PHYSICS AND ASTRONOMY	1,302	1,274	1,393	1,411	1,537	1,544	1,692	1,652	1,676	1,597	1,584
Astronomy	66	49	52	50	55	76	66	89	84	71	91
Astrophysics	64	64	76	75	79	69	78	84	108	125	117
Acoustics	16	15	21	13	18	27	20	18	19	19	18
Chemical and Atomic/Molecular	77	74	87	76	85	95	140	110	129	106	99
Electron	2	4	2	1	-	-	-	-	-	-	-
Elementary Particle	174	135	163	182	153	170	176	183	175	170	173
Fluids	17	14	17	14	17	19	12	18	21	24	26
Nuclear	88	81	73	66	86	82	90	91	87	106	92
Optics	65	78	76	85	94	96	104	98	129	123	104
Plasma and High-Temperature	65	61	42	58	65	62	79	46	48	39	55
Polymer	20	7	11	17	17	29	29	23	33	19	24
Solid State and Low-Temperature	252	296	306	372	408	336	388	371	364	328	313
Physics, General	271	269	323	247	297	340	343	355	323	255	190
Physics, Other	125	127	144	155	163	143	167	166	156	212	282
CHEMISTRY	2,015	1,970	2,100	2,194	2,214	2,137	2,257	2,162	2,148	2,143	2,217
Analytical	301	289	293	304	304	286	334	317	346	350	384
Inorganic	250	256	242	260	268	237	262	258	249	277	287
Nuclear	7	6	13	14	7	8	10	5	5	8	5
Organic	531	511	452	538	512	518	544	483	506	564	597
Medicinal/Pharmaceutical	73	64	48	83	69	99	102	96	96	105	115
Physical	318	310	325	364	398	336	334	338	300	334	278
Polymer	81	78	81	111	83	107	117	116	121	110	123
Theoretical	50	46	55	45	59	53	52	40	57	48	41
Chemistry, General	310	312	524	400	449	431	447	458	396	261	286
Chemistry, Other	94	98	67	75	65	62	55	51	72	86	101
EARTH, ATMOS., & MARINE SCI.	728	740	769	836	824	789	852	807	807	897	838
Atmospheric Physics and Chem.	19	15	18	20	36	13	27	27	22	44	38
Atmospheric Dynamics	25	16	20	21	23	23	27	16	21	25	24
Meteorology	35	27	20	31	28	34	32	25	35	28	25
Atmos. Sci./Meteorology, General	14	14	23	26	27	22	37	44	33	36	22
Atmos.Sci./Meteorology, Other	10	15	2	10	6	7	6	18	14	15	16
Geology	144	165	166	192	166	197	194	186	162	164	171
Geochemistry	46	39	56	64	62	50	59	42	49	49	58
Geophysics and Seismology	83	87	91	117	108	101	106	93	101	108	106
Paleontology	24	17	21	24	25	21	17	20	14	23	23
Mineralogy, Petrology	19	36	26	36	29	9	21	19	23	18	14
Stratigraphy, Sedimentation	30	24	25	29	23	28	27	16	12	23	24
Geomorphology and Glacial Geology	9	10	14	18	12	16	13	11	11	26	20
Applied Geology	7	6	6	1	0	0	0	0	0	0	0
Geological & Related Sci., General	8	19	31	30	18	15	18	21	27	16	13
Geological & Related Sci., Other	31	28	28	33	31	17	24	22	22	17	40
Environmental Science	58	68	50	35	57	68	61	81	83	96	73
Hydrology and Water Resources	24	24	13	16	29	25	30	24	31	43	35
Oceanography	81	87	89	85	82	98	91	83	107	114	94
Marine Sciences	28	26	39	27	32	27	34	32	27	30	18
Misc. Physical Sciences, Other	33	17	31	21	30	18	28	27	13	22	24
ENGINEERING	<u>4,187</u>	<u>4,543</u>	<u>4,894</u>	<u>5,214</u>	<u>5,438</u>	<u>5,698</u>	<u>5,822</u>	<u>6,008</u>	<u>6,305</u>	<u>6,098</u>	<u>5,919</u>
Aerospace, Aeronautic. & Astronautic.	150	178	192	207	234	228	230	252	287	270	242
Agricultural	70	102	101	83	84	86	89	73	104	79	73
Bioengineering and Biomedical	114	115	129	149	147	171	173	189	220	210	207
Ceramic Sciences	30	35	43	58	42	42	39	39	41	39	24
Chemical	624	625	561	621	607	624	630	602	681	662	667
Civil	488	498	505	509	540	563	602	572	599	592	587
Communications	24	25	35	21	30	22	33	29	32	33	40
Computer	100	117	131	178	175	167	202	189	208	227	210
Electrical, Electronics	886	995	1,110	1,206	1,278	1,354	1,438	1,513	1,500	1,458	1,343
Engineering Mechanics	105	110	111	113	132	128	132	108	105	93	86
Engineering Physics	9	16	16	23	25	21	17	17	37	24	15
Engineering Science	32	27	37	42	51	55	46	56	52	45	50

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1988-1998

Subfield	Year of Doctorate										
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Environmental Health Engineering	43	40	48	66	54	61	82	84	98	63	63
Industrial/Manufacturing	127	162	151	165	196	236	228	284	258	242	227
Materials Science	252	257	307	361	365	416	433	476	470	481	482
Mechanical	610	650	773	762	855	902	883	917	947	924	936
Metallurgical	92	88	90	70	78	77	67	73	61	60	59
Mining and Mineral	17	33	39	38	26	24	23	19	31	33	21
Naval Architecture, Marine Eng.	9	9	8	5	-	-	-	-	-	-	-
Nuclear	104	86	114	107	120	108	85	105	113	102	97
Ocean	21	20	17	21	21	24	29	21	26	34	29
Operations Research	44	68	46	76	56	56	47	48	74	74	62
Petroleum	33	29	49	28	54	52	42	48	52	51	48
Polymer/Plastics	28	58	48	42	64	61	53	58	65	54	59
Systems	44	30	51	48	37	57	51	47	47	49	68
Engineering, General	49	61	75	78	64	47	39	60	60	51	30
Engineering, Other	82	109	107	137	103	116	129	129	137	148	194
LIFE SCIENCES	6,164	6,342	6,605	6,933	7,115	7,395	7,739	7,918	8,255	8,311	8,540
BIOLOGICAL SCIENCES	4,111	4,116	4,328	4,650	4,799	5,092	5,203	5,376	5,723	5,777	5,848
Biochemistry	612	669	678	765	715	846	804	824	794	830	798
Biomedical Sciences	-	-	-	-	-	-	-	93	140	158	184
Biophysics	97	87	103	100	125	103	123	155	142	147	166
Biotechnology Research	-	-	-	-	-	8	14	4	6	11	12
Bacteriology	7	11	15	11	13	14	18	13	16	13	13
Plant Genetics	26	18	31	23	33	41	30	35	41	30	40
Plant Pathology	30	22	37	50	32	41	40	32	38	33	18
Plant Physiology	74	47	51	65	68	48	70	55	73	47	61
Botany, Other	112	117	104	105	107	105	117	102	105	91	113
Anatomy	88	80	70	77	75	76	66	64	47	50	35
Biometrics and Biostatistics	47	46	47	59	63	74	72	67	81	84	75
Cell Biology	118	133	145	149	188	231	237	236	233	250	299
Ecology	155	161	166	189	180	177	201	203	245	255	292
Developmental Biology/Embryology	7	10	22	37	48	57	62	64	96	115	127
Endocrinology	21	21	24	33	27	16	26	20	24	17	30
Entomology	133	139	147	138	139	114	123	121	136	123	138
Biological Immunology	179	152	153	177	181	169	161	190	238	214	245
Molecular Biology	364	413	413	481	527	582	598	617	651	771	741
Microbiology	333	340	335	372	377	433	423	426	444	409	384
Neuroscience	163	181	192	238	238	276	284	309	404	435	412
Nutritional Sciences	127	128	118	106	132	134	147	136	142	124	137
Parasitology	20	20	13	20	17	17	22	14	22	17	15
Toxicology	108	111	91	86	105	100	120	126	138	180	156
Human and Animal Genetics	118	112	153	160	142	172	203	202	212	217	196
Human and Animal Pathology	112	105	101	122	114	130	128	109	135	106	91
Human and Animal Pharmacology	252	242	244	266	279	274	259	278	316	300	256
Human and Animal Physiology	225	272	278	272	266	271	289	262	275	227	258
Zoology, Other	167	132	122	125	134	114	117	145	100	96	111
Biological Sciences, General	256	231	333	278	315	305	288	348	291	208	217
Biological Sciences, Other	160	116	142	146	159	164	161	126	138	219	228
HEALTH SCIENCES	882	974	956	1,041	1,112	1,197	1,296	1,330	1,324	1,422	1,500
Speech-Lang. Pathology & Audiology	93	91	93	90	82	98	95	106	94	88	95
Environmental Health	52	35	38	38	44	38	51	51	58	67	54
Health Systems/Services Admin.	-	-	-	-	-	35	53	62	60	66	63
Public Health	121	129	123	132	157	153	142	152	156	139	157
Epidemiology	97	107	102	115	108	120	168	153	149	151	166
Exercise Physiology/Sci., Kinesiology	-	-	-	-	-	-	87	118	105	105	129
Nursing	247	308	261	325	338	373	336	354	354	420	399
Pharmacy	95	111	116	115	160	146	148	144	145	142	156
Rehabilitation/Therapeutic Services	-	-	-	17	25	36	43	20	26	34	33
Veterinary Medicine	48	48	70	56	63	61	56	55	65	46	48
Health Sciences, General	29	19	36	28	30	38	41	35	22	45	17
Health Sciences, Other	100	126	117	125	105	99	76	80	90	119	183
AGRICULTURAL SCIENCES	1,171	1,252	1,321	1,242	1,204	1,106	1,240	1,212	1,208	1,112	1,192
Agricultural Economics	156	164	145	168	141	137	162	173	169	133	155
Agricultural Business & Management	0	2	2	1	0	1	0	3	2	1	2
Animal Breeding and Genetics	27	23	22	18	23	18	17	19	12	24	18
Animal Nutrition	54	67	54	57	41	52	58	50	54	55	45
Dairy Science	12	16	20	19	14	11	11	14	9	14	10
Poultry Science	10	11	17	13	22	16	21	11	12	9	11
Fisheries Science and Management	42	34	42	39	26	38	48	49	46	45	30
Animal Sciences, Other	86	95	90	92	97	74	86	85	90	61	60
Agronomy and Crop Science	141	140	143	117	123	104	143	114	110	77	96
Plant Breeding and Genetics	83	64	87	69	82	68	81	72	63	67	69
Plant Pathology	46	63	64	90	63	58	55	52	90	65	66
Plant Protection-Pest Management	1	6	4	2	-	-	-	-	-	-	-
Plant Sciences, Other	23	15	23	17	29	28	24	30	21	20	37
Food Sciences	16	1	-	-	-	-	-	-	-	-	-
Food Distribution	0	0	0	0	0	0	1	-	-	-	-
Food Engineering	6	11	10	12	14	9	16	7	7	11	13
Food Sciences, Other	119	147	141	137	151	141	152	135	142	174	153
Soil Sciences	18	-	-	-	-	-	-	-	-	-	-
Soil Chemistry/Microbiology	33	28	27	24	24	26	21	27	29	32	27
Soil Sciences, Other	62	75	91	78	63	59	69	72	78	56	74
Horticulture Science	61	75	101	78	65	62	65	67	73	44	60

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1988-1998

Subfield	Year of Doctorate										
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Wildlife Management	3	-	-	-	-	-	-	-	-	-	-
Forestry Science	15	-	-	-	-	-	-	-	-	-	-
Forest Biology	21	22	27	17	29	18	20	24	19	22	20
Forest Engineering	3	1	2	2	2	3	0	4	0	13	2
Forest Management	18	21	14	22	16	17	17	20	22	21	27
Wood Sci. & Pulp/Paper Tech.	7	16	16	16	21	20	26	26	18	25	25
Conservation/Renewable Nat. Res.	7	12	16	19	9	13	21	24	13	17	25
Forestry and Related Sci., Other	35	57	62	45	62	55	59	71	56	50	69
Wildlife/Range Management	36	52	58	59	55	54	52	50	64	50	55
Agricultural Sciences, General	9	7	5	3	9	10	4	6	5	8	8
Agricultural Sciences, Other	21	27	38	28	23	14	11	7	4	18	35
SOCIAL SCIENCES (INCL. PSYCH.)	5,781	5,961	6,093	6,152	6,216	6,545	6,613	6,635	6,814	7,037	7,075
Anthropology	325	325	324	341	320	342	384	375	396	431	425
Area Studies	16	17	22	24	33	36	34	27	28	10	14
Criminology	43	32	42	35	37	39	41	44	60	49	55
Demography/Population Studies	19	22	20	28	17	22	23	15	11	24	31
Economics	825	872	836	861	885	906	913	952	979	997	973
Econometrics	27	26	26	24	25	24	26	27	29	31	25
Geography	129	105	131	108	111	137	146	150	165	149	154
International Relations/Affairs	77	94	97	88	76	102	112	73	99	88	97
Political Science and Government	392	430	462	434	513	507	589	600	621	661	662
Public Policy Analysis	73	79	87	111	107	98	94	93	104	126	97
Sociology	449	436	428	465	495	513	525	540	516	574	549
Statistics	47	69	69	31	29	48	46	48	48	56	60
Urban Affairs/Studies	86	62	67	90	86	123	132	103	106	92	75
Social Sciences, General	28	26	23	36	33	32	21	35	26	26	30
Social Sciences, Other	171	158	178	226	186	196	148	124	135	157	147
PSYCHOLOGY	3,074	3,208	3,281	3,250	3,263	3,420	3,379	3,429	3,340	3,440	3,563
Clinical	1,095	1,259	1,337	1,305	1,309	1,373	1,285	1,291	1,325	1,268	1,350
Cognitive and Psycholinguistics	83	79	76	94	101	104	129	104	128	166	113
Comparative	7	8	8	7	2	5	8	4	3	6	6
Counseling	482	501	466	497	507	488	497	470	464	487	448
Developmental and Child	176	148	159	155	170	202	179	152	188	215	267
Human/Individual & Family Develop.	-	-	-	-	-	-	129	150	151	123	118
Experimental	135	146	143	142	154	143	139	151	128	145	149
Educational	103	105	98	110	91	91	69	74	92	61	61
Family and Marriage Counseling	-	-	-	-	-	-	-	57	52	64	51
Industrial and Organizational	118	104	126	142	138	159	137	155	162	185	189
Personality	18	28	20	13	17	22	19	16	24	25	24
Physiological/Psychobiology	85	62	46	45	55	85	93	92	80	77	92
Psychometrics	11	6	8	9	5	9	5	10	11	11	8
Quantitative	12	11	15	7	10	16	17	13	19	17	15
School	115	107	82	82	88	95	84	91	82	84	106
Social	140	128	145	147	139	125	153	155	170	181	186
Psychology, General	368	364	371	324	295	306	280	306	279	319	302
Psychology, Other	126	152	181	171	182	197	156	138	133	129	196
HUMANITIES	3,555	3,552	3,822	4,099	4,444	4,482	4,744	5,061	5,116	5,424	5,499
History, American	209	206	211	251	277	269	310	344	355	372	407
History, Asian	-	-	-	-	-	-	-	43	54	54	70
History, European	127	107	151	127	176	162	180	185	187	245	230
History/Philosophy of Sci. & Tech.	22	20	26	27	28	37	27	41	37	34	43
History, General	103	85	111	121	102	116	140	148	101	82	86
History, Other	142	120	113	137	141	142	144	128	123	176	152
Classics	56	51	58	55	58	61	84	62	72	53	84
Comparative Literature	139	103	97	150	163	153	163	191	164	181	162
Linguistics	166	188	167	227	266	214	221	201	230	244	219
Speech and Rhetorical Studies	37	35	38	86	98	111	142	139	155	137	168
Letters, General	16	13	19	17	18	18	22	43	28	23	22
Letters, Other	43	60	52	44	38	37	25	34	61	60	82
American Studies	70	76	72	92	81	101	88	94	115	82	100
Archeology	23	26	22	33	33	38	34	35	21	35	34
Art History/Criticism/Conservation	134	145	135	125	154	158	182	181	176	186	220
Music	504	521	572	587	641	613	685	713	699	727	694
Philosophy	222	270	243	285	279	274	302	298	369	447	408
Religion	217	215	219	187	231	257	252	248	317	299	327
Drama/Theater Arts	92	79	106	91	95	91	102	80	103	116	91
LANGUAGE AND LITERATURE	1,147	1,152	1,308	1,350	1,465	1,524	1,537	1,718	1,618	1,746	1,718
American	186	192	229	253	291	293	296	327	314	407	388
English	531	528	567	599	612	655	647	752	699	686	688
French	101	106	123	100	124	137	129	151	142	150	137
German	76	73	78	71	96	105	67	93	88	82	106
Italian	14	20	25	32	20	19	32	35	24	23	33
Spanish	137	134	173	173	179	179	212	209	196	250	207
Russian	13	13	19	25	28	28	38	28	37	39	43
Slavic	5	7	7	14	15	13	10	16	11	9	15
Chinese	12	9	16	19	20	21	25	20	29	23	18
Japanese	6	13	9	7	12	11	12	7	10	19	11
Hebrew	12	10	14	11	20	15	10	11	12	7	8
Arabic	14	6	7	4	12	10	4	8	6	4	9
Other Language and Literature	40	41	41	42	36	38	55	61	50	47	55

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1988-1998

Subfield	Year of Doctorate										
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Humanities, General	25	19	28	29	21	30	32	25	39	25	23
Humanities, Other	61	61	74	78	79	76	72	110	92	100	159
EDUCATION	6,362	6,281	6,510	6,454	6,677	6,689	6,708	6,649	6,772	6,549	6,559
Curriculum and Instruction	815	841	839	807	900	856	819	896	896	914	885
Educational Admin. and Supervision	1,749	1,633	1,663	1,428	1,290	1,340	1,207	1,086	1,170	1,016	949
Educational Leadership	0	0	1	485	694	783	792	889	989	1,033	1,114
Educ./Instruct. Media Design	67	76	55	73	62	96	111	121	107	92	91
Educ. Stat./Research Methods	51	59	59	80	61	64	68	63	76	58	56
Educ.Assess., Test., & Meas.	55	42	40	32	45	23	28	19	32	30	35
Educational Psychology	323	301	323	323	346	290	311	297	309	360	325
School Psychology	98	85	87	90	88	86	97	71	114	115	112
Social/Phil. Found. of Educ.	122	110	86	109	101	109	140	130	125	138	129
Special Education	257	259	225	226	260	277	241	254	278	268	248
Counseling Educ./Couns. & Guidance	325	264	301	270	259	288	284	268	277	207	269
Higher Educ./ Evaluation & Research	399	373	424	344	381	357	428	457	481	504	430
Pre-elementary/Early Childhood	83	63	42	85	98	97	91	70	81	42	54
Elementary Education	93	99	110	73	73	65	71	61	46	56	62
Junior High Education	1	-	-	-	-	-	-	-	-	-	-
Secondary Education	67	53	56	40	28	33	24	24	34	25	55
Adult and Continuing Education	229	236	211	210	208	233	215	235	210	162	168
TEACHING FIELDS	989	970	922	973	1,008	943	960	924	863	905	951
Agricultural Education	32	35	38	49	43	54	52	35	32	38	25
Art Education	42	39	44	28	46	38	33	39	41	30	46
Business Education	44	40	34	32	16	27	25	21	20	25	30
English Education	57	51	52	58	61	53	56	60	57	62	53
Foreign Languages Education	53	33	31	46	50	48	54	60	44	45	73
Health Education	86	100	95	78	98	83	97	99	90	58	70
Home Economics Education	17	19	10	21	12	14	11	15	13	13	8
Technical/Industrial Arts Education	11	17	17	13	11	16	20	15	11	19	30
Mathematics Education	56	69	65	73	62	69	74	92	100	91	115
Music Education	76	97	78	96	96	80	89	96	91	100	94
Nursing Education	34	29	24	18	29	19	24	18	23	22	14
Physical Education and Coaching	184	176	191	185	167	161	139	104	101	108	108
Reading Education	74	95	82	102	121	95	97	85	66	68	77
Science Education	67	48	72	72	73	73	85	73	96	76	109
Social Science Education	23	13	11	19	19	9	10	14	12	25	15
Speech Education	5	1	5	1	-	-	-	-	-	-	-
Technical Education	13	28	15	25	35	21	30	20	24	32	18
Trade and Industrial Education	67	47	18	17	11	24	24	13	12	16	14
Teacher Ed./Spec. Acad. & Voc., Other	48	33	40	40	58	59	40	65	30	77	52
Education, General	358	414	535	428	443	411	484	429	353	338	235
Education, Other	281	403	531	378	332	338	337	355	331	286	391
PROFESSIONAL/OTHER FIELDS	2,142	2,193	2,284	2,402	2,498	2,496	2,586	2,664	2,478	2,452	2,332
BUSINESS AND MANAGEMENT	1,033	1,067	1,036	1,163	1,248	1,281	1,283	1,327	1,276	1,236	1,165
Accounting	175	186	172	172	180	183	179	168	156	150	154
Banking/Financial Support Services	148	151	134	172	172	170	134	163	114	69	83
Business Admin. and Management	265	245	277	204	241	324	319	340	393	421	342
Business/Managerial Economics	27	27	21	19	21	33	40	37	38	47	56
International Business	-	-	-	-	-	-	22	23	36	39	33
Mgmt. Info. Sys./Business Data Proc.	-	-	-	72	103	102	117	111	94	100	86
Marketing Management and Research	126	130	120	134	139	166	167	153	153	153	143
Business Statistics	6	15	10	5	-	-	-	-	-	-	-
Operations Research	50	52	46	58	67	63	54	59	64	44	57
Organizational Behavior	74	95	64	72	81	73	102	100	108	121	103
Bus. Mgmt./Admin. Serv., General	75	57	70	123	112	87	87	92	67	28	36
Bus. Mgmt./Admin. Serv., Other	87	109	122	132	132	80	62	81	53	64	72
COMMUNICATIONS	247	306	323	332	330	321	371	380	389	332	372
Communications Research	72	85	87	72	45	33	40	40	60	51	52
Journalism	21	15	21	7	-	-	-	-	-	-	-
Mass Communications	-	-	-	68	85	117	156	121	137	117	141
Radio and Television	12	29	17	6	-	-	-	-	-	-	-
Communication Theory	-	-	-	25	47	41	45	53	37	40	48
Communications, General	70	79	86	70	76	69	68	77	81	74	62
Communications, Other	72	98	112	84	77	61	62	89	74	50	69
OTHER PROFESSIONAL FIELDS	812	766	858	836	880	867	891	931	774	770	721
Architectural Environmental Design	31	43	41	67	60	54	67	55	61	65	51
Home Economics	58	55	74	29	58	57	31	31	28	35	17
Law	33	26	34	23	20	29	33	37	26	27	31
Library Science	57	60	42	52	51	70	42	47	49	40	34
Parks/Recreation/Leisure/Fitness	-	-	-	-	-	44	37	54	29	24	36
Public Administration	92	97	88	107	108	117	135	128	104	95	105
Social Work	241	206	246	240	248	237	272	303	256	247	236
Theology/Religious Education	251	232	271	273	292	243	262	273	213	177	160
Professional Fields, General	2	0	3	3	1	1	1	1	2	4	0
Professional Fields, Other	47	47	59	42	42	15	11	2	6	56	51
OTHER/UNKNOWN FIELDS	50	54	67	71	40	27	41	26	39	114	94

*Total includes 17 respondents with missing data for doctoral field. **Includes 20 respondents with missing data for doctoral field.

NOTE: Dash (-) indicates that the field was not on the questionnaire's Specialties List that year. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates.

APPENDIX TABLE B-2a Number of Doctorate Recipients, by Gender, Race/Ethnicity, and Citizenship, 1978,1983, 1988-1998 (Total All Doctorates)

	Year of Doctorate												
	1978	1983	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
TOTAL MEN AND WOMEN*	30,875	31,281	33,500	34,327	36,067	37,534	38,890	39,801	41,034	41,743	42,414	42,555	42,683
U.S. Citizen	25,291	24,360	23,290	23,401	24,905	25,573	26,010	26,449	27,147	27,740	27,741	27,934	28,218
Permanent Visa	1,344	1,274	1,622	1,626	1,698	1,857	1,980	2,259	3,747	4,319	3,765	2,928	2,696
Temporary Visa	3,421	4,498	6,195	6,648	8,093	9,311	9,953	9,932	9,406	8,810	9,610	8,478	8,642
Unknown Citizenship	819	1,149	2,393	2,652	1,371	793	947	1,161	734	874	1,298	3,215	3,127
Total Known Race/Ethnicity	28,451	29,397	30,354	30,955	33,878	35,780	37,193	38,284	39,834	40,330	40,636	38,847	39,293
U.S. Citizen	23,778	23,740	22,907	23,025	24,531	25,085	25,657	26,217	26,893	27,437	27,398	26,880	27,352
Permanent Visa	1,313	1,248	1,545	1,564	1,637	1,796	1,906	2,225	3,699	4,278	3,733	2,867	2,607
Temporary Visa	3,246	4,253	5,840	6,297	7,557	8,788	9,535	9,675	9,114	8,544	9,363	8,251	8,371
Unknown Citizenship	114	156	62	69	153	111	95	167	128	71	142	849	963
American Indian†	61	82	94	94	98	132	152	121	146	149	189	166	189
U.S. Citizen	60	81	94	94	97	130	149	120	143	149	186	166	189
Permanent Visa★	0	1	0	0	0	2	0	0	0	0	1	0	0
Temporary Visa★	1	0	0	0	1	0	2	1	3	0	2	0	0
Unknown Citizenship	0	0	0	0	0	0	1	0	0	0	0	0	0
Asian	2,394	3,123	4,780	5,192	6,293	7,528	8,290	8,671	9,367	9,708	9,821	9,004	8,575
U.S. Citizen	390	492	614	633	641	789	848	891	950	1,140	1,091	1,296	1,168
Permanent Visa	642	550	621	635	665	742	916	1,126	2,596	3,169	2,606	1,814	1,552
Temporary Visa	1,311	2,006	3,518	3,907	4,931	5,949	6,505	6,604	5,799	5,378	6,093	5,483	5,388
Unknown Citizenship	51	75	27	17	56	48	21	50	22	21	31	411	467
Black	1,381	1,384	1,267	1,247	1,354	1,466	1,434	1,615	1,683	1,825	1,837	1,769	1,903
U.S. Citizen	1,031	922	818	822	901	1,010	971	1,111	1,101	1,309	1,315	1,336	1,467
Permanent Visa	73	83	152	141	149	156	145	169	178	168	142	139	119
Temporary Visa	269	365	291	273	291	293	311	322	389	337	364	250	254
Unknown Citizenship	8	14	6	11	13	7	7	13	15	11	16	44	63
Hispanic	861	969	1,048	1,063	1,228	1,319	1,402	1,431	1,534	1,541	1,623	1,686	1,866
U.S. Citizen	486	539	595	582	721	731	778	834	884	919	950	1,047	1,190
Permanent Visa	67	69	98	112	116	136	131	139	146	142	155	136	121
Temporary Visa	293	342	349	363	386	446	482	454	502	472	512	436	490
Unknown Citizenship	15	19	6	6	5	6	11	4	2	8	6	67	65
White	23,754	23,839	23,165	23,359	24,905	25,335	25,915	26,446	27,104	27,107	27,166	26,222	26,760
U.S. Citizen	21,811	21,706	20,786	20,894	22,171	22,425	22,911	23,261	23,815	23,920	23,856	23,035	23,338
Permanent Visa	531	545	674	676	707	760	714	791	779	799	829	778	815
Temporary Visa	1,372	1,540	1,682	1,754	1,948	2,100	2,235	2,294	2,421	2,357	2,392	2,082	2,239
Unknown Citizenship	40	48	23	35	79	50	55	100	89	31	89	327	368
Unknown Race/Ethnicity	2,424	1,884	3,146	3,372	2,189	1,754	1,697	1,517	1,200	1,413	1,778	3,708	3,390
U.S. Citizen	1,513	620	383	376	374	488	353	232	254	303	343	1,054	866
Permanent Visa	31	26	77	62	61	61	74	34	48	41	32	61	89
Temporary Visa	175	245	355	351	536	523	418	257	292	266	247	227	271
Unknown Citizenship	705	993	2,331	2,583	1,218	682	852	994	606	803	1,156	2,366	2,164

★In most cases, non-U.S. American Indians are citizens of Canada or of a Latin American country.

* Total includes individuals who did not report sex.

†Includes Alaskan Native.

APPENDIX TABLE B-2b Doctorates: MEN

	Year of Doctorate												
	1978	1983	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
TOTAL MEN	22,553	20,748	21,680	21,814	22,960	23,525	24,235	24,382	25,058	25,158	25,267	24,944	24,653
U.S. Citizen	17,936	15,121	13,724	13,396	14,165	14,385	14,518	14,512	14,732	14,965	14,700	14,915	14,750
Permanent Visa	1,052	952	1,164	1,139	1,189	1,223	1,290	1,468	2,636	2,908	2,483	1,831	1,662
Temporary Visa	2,966	3,871	5,134	5,444	6,632	7,506	7,946	7,835	7,306	6,840	7,384	6,454	6,418
Unknown Citizenship	599	804	1,658	1,835	974	411	481	567	384	445	700	1,744	1,823
Total Known Race/Ethnicity	20,747	19,376	19,410	19,404	21,338	22,353	23,164	23,529	24,319	24,300	24,228	22,975	22,689
U.S. Citizen	16,822	14,677	13,448	13,117	13,899	14,030	14,261	14,343	14,563	14,754	14,473	14,323	14,242
Permanent Visa	1,029	930	1,097	1,094	1,149	1,177	1,236	1,444	2,602	2,884	2,460	1,794	1,603
Temporary Visa	2,817	3,648	4,822	5,143	6,174	7,072	7,605	7,641	7,093	6,628	7,201	6,276	6,218
Unknown Citizenship	79	121	43	50	116	74	62	101	61	34	94	582	626
American Indian†	51	51	52	49	52	74	82	61	74	82	103	77	104
U.S. Citizen	50	50	52	49	52	74	82	60	71	82	102	77	104
Permanent Visa★	0	1	0	0	0	0	0	0	0	0	0	0	0
Temporary Visa★	1	0	0	0	0	0	0	1	3	0	1	0	0
Unknown Citizenship	0	0	0	0	0	0	0	0	0	0	0	0	0
Asian	1,972	2,541	3,845	4,163	5,030	5,872	6,417	6,603	7,060	7,105	7,200	6,422	6,032
U.S. Citizen	287	312	414	446	427	482	531	552	590	670	614	740	643
Permanent Visa	531	430	456	459	481	489	604	732	1,877	2,198	1,784	1,143	986
Temporary Visa	1,114	1,731	2,957	3,245	4,077	4,865	5,264	5,282	4,576	4,222	4,779	4,245	4,063
Unknown Citizenship	40	68	18	13	45	36	18	37	17	15	23	294	340
Black	900	835	699	685	733	788	771	840	889	881	933	860	820
U.S. Citizen	582	413	317	328	351	421	396	441	411	490	535	524	520
Permanent Visa	65	73	126	125	128	131	123	138	142	125	106	108	87
Temporary Visa	251	341	251	222	243	232	246	251	329	261	286	194	174
Unknown Citizenship	2	8	5	10	11	4	6	10	7	5	6	34	39
Hispanic	649	635	678	662	760	806	860	874	866	911	931	976	1,055
U.S. Citizen	330	288	321	307	380	370	410	423	438	460	478	535	606
Permanent Visa	54	45	64	69	69	88	72	94	80	79	86	82	71
Temporary Visa	254	288	288	283	309	344	371	356	346	369	363	311	344
Unknown Citizenship	11	14	5	3	2	4	7	1	2	3	4	48	34
White	17,175	15,314	14,136	13,845	14,763	14,813	15,034	15,151	15,430	15,321	15,061	14,640	14,678
U.S. Citizen	15,573	13,614	12,344	11,987	12,689	12,683	12,842	12,867	13,053	13,052	12,744	12,447	12,369
Permanent Visa	379	381	451	441	471	469	437	480	503	482	484	461	459
Temporary Visa	1,197	1,288	1,326	1,393	1,545	1,631	1,724	1,751	1,839	1,776	1,772	1,526	1,637
Unknown Citizenship	26	31	15	24	58	30	31	53	35	11	61	206	213
Unknown Race/Ethnicity	1,806	1,372	2,270	2,410	1,622	1,172	1,071	853	739	858	1,039	1,969	1,964
U.S. Citizen	1,114	444	276	279	266	355	257	169	169	211	227	592	508
Permanent Visa	23	22	67	45	40	46	54	24	34	24	23	37	59
Temporary Visa	149	223	312	301	458	434	341	194	213	212	183	178	200
Unknown Citizenship	520	683	1,615	1,785	858	337	419	466	323	411	606	1,162	1,197

★In most cases, non-U.S. American Indians are citizens of Canada or of a Latin American country.

†Includes Alaskan Native.

APPENDIX TABLE B-2c Doctorates: WOMEN

	Year of Doctorate												
	1978	1983	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
TOTAL WOMEN	8,322	10,533	11,819	12,513	13,106	13,873	14,436	15,122	15,819	16,414	16,945	17,251	17,856
U.S. Citizen	7,355	9,239	9,566	10,005	10,740	11,185	11,491	11,932	12,412	12,773	13,041	12,990	13,452
Permanent Visa	292	322	458	487	508	633	687	788	1,110	1,410	1,282	1,096	1,018
Temporary Visa	455	627	1,061	1,204	1,461	1,794	1,990	2,069	2,076	1,952	2,215	2,015	2,212
Unknown Citizenship	220	345	734	817	397	261	268	333	221	279	407	1,150	1,174
Total Known Race/Ethnicity	7,704	10,021	10,944	11,551	12,539	13,417	14,016	14,736	15,500	16,022	16,403	15,859	16,579
U.S. Citizen	6,956	9,063	9,459	9,908	10,632	11,053	11,396	11,872	12,327	12,683	12,925	12,554	13,107
Permanent Visa	284	318	448	470	487	619	669	779	1,096	1,393	1,273	1,072	996
Temporary Visa	429	605	1,018	1,154	1,383	1,708	1,920	2,021	2,013	1,910	2,158	1,966	2,142
Unknown Citizenship	35	35	19	19	37	37	31	64	64	36	47	267	334
American Indian†	10	31	42	45	46	58	70	60	72	67	86	89	85
U.S. Citizen	10	31	42	45	45	56	67	60	72	67	84	89	85
Permanent Visa★	0	0	0	0	0	2	0	0	0	0	1	0	0
Temporary Visa★	0	0	0	0	1	0	2	0	0	0	1	0	0
Unknown Citizenship	0	0	0	0	0	0	1	0	0	0	0	0	0
Asian	422	582	935	1,029	1,262	1,648	1,862	2,054	2,297	2,596	2,616	2,575	2,527
U.S. Citizen	103	180	200	187	214	306	317	338	359	470	477	555	524
Permanent Visa	111	120	165	176	183	253	311	392	718	970	822	671	559
Temporary Visa	197	275	561	662	854	1,077	1,231	1,312	1,217	1,150	1,310	1,232	1,318
Unknown Citizenship	11	7	9	4	11	12	3	12	3	6	7	117	126
Black	481	549	568	562	621	678	663	773	792	944	904	909	1,081
U.S. Citizen	449	509	501	494	550	589	575	670	690	819	780	812	947
Permanent Visa	8	10	26	16	21	25	22	31	36	43	36	31	31
Temporary Visa	18	24	40	51	48	61	65	70	59	76	78	56	80
Unknown Citizenship	6	6	1	1	2	3	1	2	7	6	10	10	23
Hispanic	212	334	370	401	468	513	542	556	668	630	692	710	809
U.S. Citizen	156	251	274	275	341	361	368	411	446	459	472	512	583
Permanent Visa	13	24	34	43	47	48	59	45	66	63	69	54	50
Temporary Visa	39	54	61	80	77	102	111	97	156	103	149	125	145
Unknown Citizenship	4	5	1	3	3	2	4	3	0	5	2	19	31
White	6,579	8,525	9,029	9,514	10,142	10,520	10,879	11,293	11,671	11,785	12,105	11,576	12,077
U.S. Citizen	6,238	8,092	8,442	8,907	9,482	9,741	10,069	10,393	10,760	10,868	11,112	10,586	10,968
Permanent Visa	152	164	223	235	236	291	277	311	276	317	345	316	356
Temporary Visa	175	252	356	361	403	468	511	542	581	581	620	553	599
Unknown Citizenship	14	17	8	11	21	20	22	47	54	19	28	121	154
Unknown Race/Ethnicity	618	512	875	962	567	456	420	386	319	392	542	1,392	1,277
U.S. Citizen	399	176	107	97	108	132	95	60	85	90	116	436	345
Permanent Visa	8	4	10	17	21	14	18	9	14	17	9	24	22
Temporary Visa	26	22	43	50	78	86	70	48	63	42	57	49	70
Unknown Citizenship	185	310	715	798	360	224	237	269	157	243	360	883	840

★In most cases, non-U.S. American Indians are citizens of Canada or of a Latin American country.

†Includes Alaskan Native.